



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,442	11/03/2005	Hitoshi Isoda	Q90893	4358

23373 7590 07/21/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

NGUYEN, TRAN N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/555,442	Applicant(s) ISODA ET AL.	
	Examiner Tran N. Nguyen	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hayashi et al (US 5,536,987)** in view of **Umeda et al (US 6,097,130)**.

Hayashi discloses a dynamoelectric rotor has a Lundell rotor core having:

a cylindrical boss portion; yoke portions respectively disposed so as to extend radially outward from two axial end edge portions of said boss portion; and a plurality of claw-shaped magnetic poles disposed so as to extend axially from outer peripheral portions of said yoke portions so as to intermesh with each other alternately; a field winding installed on said boss portion; and a linking structure made of a nonmagnetic material for linking a tip end portion and a root end portion of at least one adjacent pair of said claw-shaped magnetic poles, wherein: a region of said adjacent claw-shaped magnetic poles extending from the tip end portion to the root end portion is linked by said linking structure, and a plurality of said pairs of adjacent claw-shaped magnetic poles are linked by a plurality of said linking structures and said linking

structures are linked circumferentially, and wherein a magnet for reducing leakage of magnetic flux between said adjacent claw-shaped magnetic poles is held by said linking structure.

Hayashi substantially discloses the claimed invention, except the limitations of *said field winding is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member interposed.*

Umeda, however, teaches a rotor with field winding (8) is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member (81) interposed (fig 1, col. 2 lines 50+) for the purpose of increasing in the usable space optimally distributed to an increase in the cross-sectional area of the magnetic path and an increase in the area of the field coil; therefore, the alternator power output can be remarkably improved while keeping the compact, highly efficient, and high-power alternator.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by configuring the field winding is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member interposed, as taught by Umeda. Doing so would increase in the usable space in the area of the field coil; therefore, the alternator power output can be remarkably improved while keeping the compact, highly efficient, and high-power alternator.

Double Patenting

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); and *In re Goodman*, 29 USPQ2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(b) and © may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.78(d).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. **Claims 1-7** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over **claims 1-9 of U.S. Patent 6930432** (hereafter, **USP '432**) in view of **Umeda et al (US 6,097,130)**.

Claims 1-7 of USP'432 are similar to claims 1-7 of this application. Both patented invention and the present application's invention claim the similar invention, particularly each one of said linking structure is mounted to each of said adjacent claw-shaped magnetic poles, and adjacent pairs of said linking structures are joined together between said claw-shaped magnetic poles, wherein a portion of said linking structure is interposed between said insulating member and the inner peripheral surface of said claw-shaped magnetic pole.

However, the patented invention does not claim the features of the following:

(a) said field winding is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member interposed;

(b) the linking structure is made of insulating material.

Regarding the limitations of the subsection (a) herein, Umeda, however, teaches a rotor with field winding (8) is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member (81) interposed (fig 1, col. 2 lines 50+) for the purpose of increasing in the usable space optimally distributed to an increase in the cross-sectional area of the magnetic path and an increase in the area of the field coil; therefore, the alternator power output can be remarkably improved while keeping the compact, highly efficient, and high-power alternator.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the rotor by configuring the field winding is wound onto said boss portion so as to have a larger diameter than a root inside diameter of said claw-shaped magnetic poles and is placed in contact with an inner peripheral surface of at least one of said claw-shaped magnetic poles with an insulating member interposed, as taught by Umeda. Doing so would increase in the usable space in the area of the field coil; therefore, the alternator power output can be remarkably improved while keeping the compact, highly efficient, and high-power alternator.

Regarding the limitations of the subsection (b) herein, the patented invention's linking structure is made of nonmagnetic material. Those skills in the art would understand that because the linking structure is in the position that is near or in contact with the winding thereof, it would have been obvious to an artisan to select insulating material to made the linking structure in order to prevent potential damage of short circuit between the winding and the linking structure.

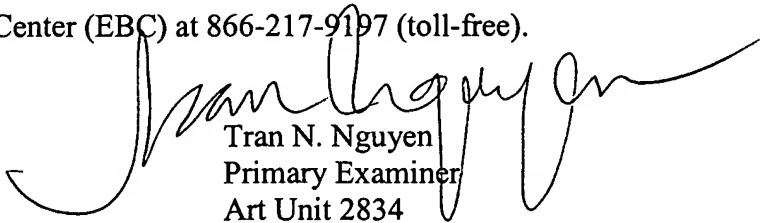
Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select insulating material for making the linking structure. Doing so would ensure electrical insulation between the winding and the combination of claw pole and the linking structure. Also, it has been held that selecting a suitable material for a disclosed component to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tran N. Nguyen
Primary Examiner
Art Unit 2834